

# Operating Instructions

## COBAVEST ®

Investment for Partial denture, suitable to be used for the traditional preheating method but also as speed investment.

COBAVEST ® is a phosphate-bonded precision investment material to be used in the partial denture technique for Silicon, Polyether and also Gel duplications.

COBAVEST can be used at low preheating temperature, for model duplications without hardening or dipping of the models.

Physical properties	Silicon Duplications	Gel Duplications
Mixing Ratio (Powder/Liquid)	200g / 42ml for Models&Casting cylinders	200g / 39 ml for Models 200g / 42 ml for Cylinders
Working temperature	20 – 23 °C	20 – 23 °c
Working time (20-23 °C)	approx. 5 min	approx. 5 min
Mixing time	60 Seconds under Vacuum	60 Seconds under Vacuum
Setting time	30 Minutes or more	30 Minutes or more
Setting expansion	0,6 - 0,7 %	0,6 - 0,8 %
Thermal Expansion	1,1 - 1,2 %	1,1 - 1,3 %
Total expansion	1,7 - 2,0 %	1,7 - 2,1 %

Rule :	Duplicating Model Casting Cylinders	200 g Powder : 39 – 42 ml Liquid 200 g Powder : 42 ml
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### Instructions for Use

Duplicate carefully the prepared and clean master model with YETI **PRECISIL Duplication silicon** 1:1 20 Shore Item.Nr. 880-0000. When the duplication silicon is hardened, remove the master model with compressed air or with an appropriate instrument from the mould. Apply a little of the YETI Debubilizer Item.Nr. 142-0000 on the duplicated Silicon form and than remove that film of Debubilizer by good compressed air in order to have better results when investing.

In order to avoid any type of pressure on the silicon or the Gel (Agar-Agar), we suggest to keep the duplicating form in a special duplicating mould.

The mixing ration that we suggest is 42 ml Liquid for 200 g Powder.

**To control the expansion the Liquid must be diluted with distillated water.**

For Clasp Dentures, the expansion can be increased by using less distillated water. For combination work by diluating the speccail liquid with distillated water and a higher friction can be obtained.

Rule :	Duplicating model Casting Cylinders	25 % Distillated Water : 75 % Liquid 50 % Distillated Water : 50 % Liquid
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Pour the exact quantity of liquid in the mixing bowl and add the powder slowly, spatulate thoroughly and mix under vacuum for 60 seconds. Pour carefully under vibrations the mixed investment in the duplicating mould and let the model harden without touching and shaking at least 20 minutes for the Silicon duplication and at least 60 minutes for Gel duplications. Then, remove carefully with air or an appropriate instrument (must not be sharp) from the silicon mould.

**Rule : Gel dupilcation flask must be dried and have a room temperature**

**Rule : By reducing the total amount of liquid, the metal friction will be decreased. It allows an easier fitting for the clasps on the model.**

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Before modelling, dry the investment Silicon duplicating model for 5 minutes at a temperature of approx. 140 °C, and the investment Gel duplicating model for 25 minutes at a temperature of approx. 170 °C. Finally model and can be dipped for 2 seconds in a hardening bath. We recommend to apply our YETI **Universal Glue** (Item. Nr. 508-0001) on all investment model surfaces which will be adapted with wax or plastic ready-made patterns.

**Rule:** **Drying time for Silicone Duplication**                      **5 minutes at 140°C**  
**Drying time for Gel Duplication**                                      **25 minutes at 170 °C**

**Rule:** **For Casting Cylinders**                                      **400 g Powder : 84 ml Liquid**

Fix the investment model with a casting work in duplication flask and pour the mixed investment under moderate vibrations. Let it harden without touching and shaking for 30 Minutes (if traditional method is applied) or for 20 minutes (if speed method is applied). In case of using of closed flask systems we recommend to cover the inner side of the flask with a flask liner before pouring the COBAVEST investment. After hardening, grind the upper and the lower side of the model on the dry trimmer. Place the casting muffle with a casting funnel downwards into the furnace.

**Rule:** **Setting time**    **30 minutes for traditional method**  
**Setting time**    **20 minutes for speed method**

## TRADITIONAL METHOD

### Preheating

Adjust the furnace at the desired temperature depending on the type of alloy used:

<b>850°C</b>	<b>General Preheating temperature (usual final temperature)</b>
<b>850 - 900°C</b>	

**Rule :** **The final temperature must be increased by 50°, if a Vacuum-Pressure-Casting machine is used.**

**We do not recommend to use the speed procedure in case of Gel duplication.**

Heating Process	Holding time	Heating rhythm
Heat up to 280°C		3°C/min
Hold temp. at 280°C	20min	
280°C to 580°C		6 - 8°C/min
Hold temp. at 580°C	20min	
580°C to 850°C		8 - 10°C/min
Holding time at final temp.	40min	

## SPEED METHOD

**Rule :** **Preheat the furnace to 800°C, set the cylinder into. Depending on the type of alloy if necessary increase the temperature to max. 850-900°C (see alloy manufacturer's instruction). Holding time at final temperature - 40 minutes.**

**Rule :** **Holding time must be prolonged depending on the number of flasks in the oven.**

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## Storage

The Powder and the Special Liquid must be stored at a room temperature (approx. 21° C). Protect the liquid against freezing, do not store at a temperature below 5 °C, otherwise it will be damaged.

Storage shelf life of COBAVEST Powder and COBAVEST Liquid is 24 months!

## Delivery

Item. Nr. 940-0200	COBAVEST®	- 20 kg (100x200 g) powder
Item. Nr. 942-0000	COBAVEST ® + Liquid	- 20 kg (100x200 g) powder + 3000 ml liquid
Item. Nr. 941-1000	COBAVEST ® Liquid	- 1000 ml liquid

**Rule: By reducing the total amount of the liquid, the metal friction will be decreased and the removal of the clasps will be easier.**

## Casting

Casting can take place in usual way for all casting methods (centrifuge, vacuum pressing, open flame). Casting should be done immediately after taking the muffle out of the furnace. For details see alloy manufacturer's instruction.

## Cool down

Put the flask with a funnel directed upward to cool it down more quickly. Let at least 30 minutes pass before deflasking. Because of quartz and cristobalite dust please wet the investment mould before deflasking.

The above given instructions correspond to the actual technical status. General Terms and Conditions of Sale and Supply are applicable.

<b>Cobavest</b>		Powder/Polvere/Polvo	H2O dest.	Liquid	Total
Model/Duplicato	Gel/Gelatine/	200 g	10 ml/10g	29 ml/35g	39 ml/45g
Muffel/Cylindre/Mufla	Gel/Gelatine	400 g	42 ml/42g	42 ml/51g	84 ml/93g
Model/Duplicato	Silicone	200 g	12 ml/12g	30 ml/36,5g	42 ml/48,5g
Muffel/Cylindre/Mufla	Silicone	400 g	42 ml/42g	42 ml/51g	84 ml/93g

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